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September 18, 2001

Dr. Lake H. Barrett
Acting Director
Office of Civilian Radioactive Waste Management
United States Department of Energy
Washington, DC 20585

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Dear Dr. Barrett:

This is to offer my comments regarding the Yucca Mountain repository project. These comments are offered based on 30 years of my experience as a nuclear engineer both in industry and academia, and currently as Chair of the Department of Nuclear Engineering and Radiological Sciences at the University of Michigan.

1. Significant scientific effort has been made to make the Yucca Mountain site a safe and acceptable long-term repository for spent nuclear fuel and high-level radioactive waste generated in producing 20% of electricity in this country over the past 30 years and for the foreseeable future. Having reviewed the report of the Peer Review Panel for Yucca Mountain Total System Performance Assessment and the Yucca Mountain Preliminary Site Suitability Evaluation, I believe the DOE project team has addressed all conceivable scenarios to protect the public through the long-term disposal of spent nuclear fuel in the proposed geological repository, threby ensuring continued generation of electricity from nuclear power plants.

2. Having served as a member of the Separations Technology and Transmutation Systems (STATS) Panel of the National Academy of Sciences during the period 1991-96, I believe it is imperative for the nation to move ahead with the underground repository at Yucca Mountain, while pursuing long-term research on means to separate and transmute long-lived radioactive material from spent nuclear fuel. In fact, I would like to remind you that a key conclusion and recommendation of the STATS report [*Nuclear Wastes: Technologies for Separations and Transmutation*, National Research Council, 1996] is that the nation needs a geological repository such as Yucca Mountain.

3. Currently serving as a member of the DOE Generation IV Roadmap Project team, comprising 60 domestic and 40 international participants, I again duly recognize the importance of developing the Yucca Mountain repository as expeditiously as possible. In spite of various innovative concepts proposed for the Generation IV nuclear energy system, we will still need to construct the Yucca Mountain repository to dispose of the high-level radioactive waste and spent nuclear fuel for continued operation of nuclear power plants in the United States, certainly for the foreseeable future. This is based on the simple fact that it will always be necessary to dispose of inevitable reprocessing losses even with the most efficient reprocessing technology.

4. As was successfully demonstrated in the Waste Isolation Pilot Plant at Carlsbad, New Mexico, for defense nuclear waste, I believe there is no technical issue that would impede successful construction of a safe geological repository at Yucca Mountain.

5. Expeditious construction of the Yucca Mountain repository will be able to remove one lingering concern some segments of the public have regarding further development of nuclear energy in the country. As was made evident during the electricity crisis in California this year, it is essential that the nation be allowed to construct new nuclear power plants, which can provide much needed electricity in an environmentally clean and economically competitive manner.

Based on the above reasons, I urge the Secretary of Energy to recommend that Yucca Mountain be developed as the repository for spent nuclear fuel and high-level radioactive waste. Please feel free to contact me if you have questions on my comments.

Sincerely,

John C. Lee
Professor and Chair